



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,438	07/17/2003	Ryo Horie	040894-5943	1093
9629	7590	05/05/2006	EXAMINER	
MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004			WIMER, MICHAEL C	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

HA

<b>Office Action Summary</b>	<b>Application No.</b> 10/620,438	<b>Applicant(s)</b> HORIE ET AL.	
	<b>Examiner</b> Michael C. Wimer	<b>Art Unit</b> 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsuru et al. (5969680).

Regarding Claims 1,2 and 4, Tsuru et al., show in Figures 9A,9B,10A,10B and 11A, an antenna comprising a dielectric body 53a, a ground electrode 67a (see Fig. 2 for the top portion of the substrate 53a and the feeding portion structure), a radiation electrode 56a (51b) having a first open end and a second end which is (capacitively) connected to the ground electrode (C2 in Fig. 10A), a feeding terminal 66 provided on the first surface (Fig. 2) and a feeding electrode 52 having a first end 67b connected to and directly contacts the feeding terminal and a second end 52e which is connected to and directly contacts ground electrode 67a, at least a first part 52a of the feeding electrode 52 extending in parallel with an elongated direction of the radiation electrode 56a, so as to excite the radiation electrode with an induction coupling and capacitive coupling (defined within the term electromagnetically coupled, Fig. 9A,9B and 11A, col. 10, lines 58-62), all arranged as claimed.

***Claim Rejections - 35 USC § 103***

Art Unit: 2828

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuru et al. (5969680) in view of Tsubaki (6100849).

No resonance condition specifically naming the feeding electrode 52 having a quarter wavelength appears to be taught. However, such a length for the feeding electrode is implied when an electromagnetic wave is formed along the length thereof. Thus, Tsubaki is cited as evidence of obviousness and as resolving the level of ordinary skill in the antenna art, and teaches that the feeding electrode 13 is of a quarter wavelength long and feeds the radiation electrode 14 (see the paragraph bridging columns 6 and 7). It would have been obvious to the skilled artisan that the feeding electrode 52 in Tsuru et al. is required to be of this length taught by Tsubaki.

Regarding Claim 5, since an electrical connection via the capacitor connects the radiation electrode to ground, a "direct connection" with respect to the RF current is formed, and thus a skilled artisan recognizes as obvious that such a connection is defined. However, Tsubaki shows direct electrical connections 15 and 16 of the radiation electrodes 13 and 14. A skilled artisan would have found it obvious to employ such connections in the Tsuru et al. antenna

Regarding Claim 6, the dielectric substrate 11 in Tsubaki is employed to avoid contact of the radiation electrodes with the ground 12. A skilled artisan would have found it obvious to employ such a substrate in Tsuru for such support purposes.

Regarding Claim 7, Tsubaki teach in Figures 5 and 6, the use of multi-layered substrates, e.g., 21, where the elements may be inside the supporting substrates, or alternatively covered by a substrate. It would have been obvious to the skilled artisan to employ a radiation electrode inside the substrate, at 21 for the purpose of providing a multi-layered and environmental protected antenna arrangement in Tsuru et al. as taught by Tsubaki.

### ***Response to Arguments***

5. Applicant's arguments filed 2/15/200 have been fully considered but they are not persuasive. Specifically, all claimed structure is shown by Tsuru et al. relative to Claims 1,2 and 4 as set forth above, both schematically and electrically. An RF connection or coupling does define a connection as broadly as claimed here in the claims. No claimed structure or interrelationship of structure set forth in the claims would preclude the use of such a capacitively-coupled electrode. Applicant's arguments may hold true in circuit elements but in antennas there are RF connections that are not necessarily directly coupled or connected as in the conventional sense argued by applicant. Since the claimed features are shown in the references of record it is not seen how the claims patentably defined thereover. Therefore, the rejections stand.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Wimer whose telephone number is (571) 272-1833. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun O. Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael C. Wimer  
Primary Examiner  
Art Unit 2828

MCW  
4/24/2006